

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-49. (Canceled)

50. (Currently amended) A biocompatible material comprising decellularized bone marrow extracellular matrix, wherein the bone marrow extracellular matrix has been produced *in vivo* in an animal, and wherein the biocompatible material is in the form of a scaffold.

51. (Original) The biocompatible material of claim 50, wherein the decellularized bone marrow extracellular matrix is produced by a method comprising the steps of:

- (a) obtaining from a subject a bone marrow sample having an extracellular matrix and cellular components;
- (b) processing the bone marrow sample to remove at least some of the non-extracellular matrix component to obtain decellularized bone marrow extracellular matrix; and
- (c) sterilizing the decellularized extracellular matrix.

52. (Original) The biocompatible material of claim 51, wherein the non-extracellular matrix component comprises cells, cell components, antigens, cytokines, blood, bone spicules, serum, and fat.

53. (Original) The biocompatible material of claim 51, wherein at least 50% of the non-extracellular matrix component is removed.

54. (Original) The biocompatible material of claim 51, wherein at least 80% of the non-extracellular matrix component is removed.

55. (Original) The biocompatible material of claim 51, wherein at least 95% of the non-extracellular matrix component is removed.

56. (Currently amended) The biocompatible material of claim ~~54~~ 50, wherein the animal is a mammal.
57. (Original) The biocompatible material of claim 56, wherein the mammal is selected from the group consisting of cow, pig, horse, chicken, cat, dog, rat, monkey, and human.
58. (Original) The composition of claim 57, wherein the human is an adult, adolescent, neonate or fetus.
59. (Original) The biocompatible material of claim 51, wherein the bone marrow extracellular matrix is arranged in a structure and wherein the structure is maintained after the bone marrow extracellular matrix is decellularized.
60. (Currently amended) The biocompatible material of claim ~~54~~ 50 further comprising a biological material.
61. (Original) The biocompatible material of claim 60, wherein the biological material is selected from the group consisting of erythropoietin, stem cell factor (SCF), vascular endothelial growth factor (VEGF), transforming growth factor (TGF), fibroblast growth factor (FGF), epidermal growth factor (EGF), cartilage growth factor (CGF), nerve growth factor (NGF), keratinocyte growth factor (KGF), skeletal growth factor (SGF), osteoblast-derived growth factor (BDGF), hepatocyte growth factor (HGF), insulin-like growth factor (IGF), cytokine growth factor (CGF), stem cell factor (SCF), platelet-derived growth factor (PDGF), endothelial cell growth supplement (ECGS), colony stimulating factor (CSF), growth differentiation factor (GDF), integrin modulating factor (IMF), calmodulin (CaM), thymidine kinase (TK), tumor necrosis factor (TNF), growth hormone (GH), bone morphogenic proteins (BMP), matrix metalloproteinase (MMP), tissue inhibitor matrix metalloproteinase (TIMP), interferon, interleukins, cytokines, integrin, collagen, elastin, fibrillins, fibronectin, laminin, glycosaminoglycans, hemonection, thrombospondin, heparan sulfate, dermatan, chondroitin sulfate (CS), hyaluronic acid (HA), vitronectin, proteoglycans, transferrin, cytactin, tenascin, and lymphokines.
62. (Original) The biocompatible material of claim 51, wherein the method further comprises the step of enzymatically treating the decellularized bone marrow extracellular matrix.

63. (Original) The biocompatible material of claim 51, wherein the method further comprises suspending the decellularized bone marrow extracellular matrix in a saline solution.

64. (Canceled)

65. (Currently amended) The biocompatible material of claim ~~51~~ 50, wherein the biocompatible material is suitable for implantation into a patient.

66. (New) A method for treating a defective, diseased, damaged or ischemic tissue or organ in a subject comprising implanting the biocompatible material of claim 50 into the subject.

67. (New) A method for treating a defective, diseased, damaged or ischemic tissue or organ in a subject comprising injecting the biocompatible material of claim 50 into the subject.

68. (New) A method for augmenting or reconstructing a tissue or organ in a subject comprising implanting the biocompatible material of claim 50 into the subject.

69. (New) A method for augmenting or reconstructing a tissue or organ in a subject comprising injecting the biocompatible material of claim 50 into the subject.